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CENTRAL INTELLIGENCE AGENCY REPORT

INFORMATION REPORT

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COUNTRY USSR REPORT

TOPIC Atomic Research Institute Headed by Manfred von Ardenne at inop

EVALUATION PLACE OBTAINED

DATE OF CONTENT

DATE OBTAINED DATE PREPARED 21 December 1954 25X1

REFERENCES

PAGES 3 ENCLOSURES (NO. & TYPE) 5 - four sketches, and legends on ditto. 25X1

REMARKS 25X1

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1. The atomic research institute headed by Manfred von Ardenne, which was usually called Institute "C" (Cyrillic letter), was located about 8 km southeast of the border of Sukhumi, on the east side of the highway leading from Sukhumi toward Agudzeri and Ochemshir[illegible]. The institute area measured approximately 500 by 800 meters. 25X1

About 250 meters east of the highway, the terrain began to rise gently to the steep and densely wooded slopes running parallel to [illegible] the coast. The most important installations of the institute were located in the level section of the area, while most of the supply installations and billeting facilities were located on the slope. Prior to 1945, the institute building served as a sanatorium. Several new buildings were erected after early 1946. 25X1

2. The institute was under German management in all questions related to research work. A Soviet general supervised the work done by the Germans. The following departments were known to exist at the institute: 25X1

Mathematics Department
Physical Department
Chemical Department
Biological Department
"House D "
Main Workshop serving all departments.

No information was available on the missions assigned to the individual departments. Soviet scientists, engineers, technicians, mechanics, laboratory workers, and skilled workers were attached to all departments. The cooperation between the Soviet and German personnel was smooth. 2 25X1

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3. Underground cables extended from the Diesel-electric station to all departments. Power with a voltage of 380 V was supplied. Between 1947 and July 1949, the power supply system frequently broke down because the line was overloaded. For this reason, a new transmission line was built between the institute and Institute A in Agudzeri. It was moreover rumored that a connection was to be established to a new power station under construction about 40 km east of Sukhumi. Preparations for the construction of such a line were not observed, however.

4. Gas was furnished to the institute by a gas works located near Kelazuri about 4 km distant from Zinop. This gas works, which was once seen, was an old and minor installation. Gas connections were available in all laboratories and institute buildings.

5. Raw materials and other supplies needed at the institute exclusively arrived by truck. These materials included:

Steel and iron	in U-sections, ingots, sheets, and pipes
Copper	in small ingots
Duraluminum	in sheets, round sections, and angular sections
Brass	in round and angular sections, ingots, and sheets
Aluminum	in sheets and round bars
Bronze	in round bars
Hard rubber	in round sections and plates
Plexiglass	in plates of various sizes
Pertinax	in plates, used as insulating material
Ceramic bodies	in the shape of tubes, 50 to 60 cm long and with an inner diameter of 1 to 5 cm, or in the form of pipes, 10 cm long and 1 cm in diameter
Insulating devices	used for high-tension lines. These devices were delivered in 2 or 3 sizes; they were up to about 60 cm high and were fitted with 3 hood-like disks which had a diameter of 30 cm. Such insulators were seen three or four times when they were being unloaded at the back door of the institute in the fall of 1948. They were carried by Soviet workmen of Ardenne's or Thiessen's department into the institute.
Glass wool	This glass wool was mainly used as insulating material on electric furnaces in operation in many laboratories.
Asbestos	in sheets and plates, used by the glass blowers.
Uranium	[redacted] a supply of uranium was allegedly stored in a safe on the first floor of the institute building. The uranium was under the control of Dr Trattner.

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6. Once a day, a Diesel-electric train consisting of three cars provided with a white-yellowish coat of paint left the institute toward Sukhumi at about 1800 hours. A returning train was never observed because it probably operated at night. At regular intervals, trains

of 30 to 35 oil tank cars were seen. These trains arrived from the south and proceeded toward Sukhumi. Trains of empty tank cars were occasionally seen proceeding from the direction of Sukhumi toward the south. Soviet soldiers escorted these trains.

7. 25X1

Only standard commercial equipment was manufactured including switches, switchboards, insulated fittings, etc, which were needed in large quantities in the laboratories and the small workshops of the institute. All these articles were installed by German electricians. The equipment was manufactured in the mechanical workshop under the supervision of Ingenieur Apitzsch. 25X1

8. 25X1

An electromagnet of the same type seen in "House D" was observed in a laboratory located on the second floor of the middle section of the institute. This electromagnet was, however, only half the size of that located in "House D". 25X1 25X1

9. The total work force of the institute was estimated to be approximately 180 persons including about 80 Soviets. All personnel employed at the institute and their dependents had to live and stay within the fenced-in area.

10. In the spring of 1949, Soviets were attached to some workshops; they had to be familiarized with the work done there. About 15 Soviets from 25 to 45 years old who were familiar with the working of machines and 12 apprentices from 16 to 18 years old were attached to the Main Workshop.[4] Four Soviets from 26 to 30 years old who appeared to be skilled mechanics and electricians were attached to the workshop headed by Apitzsch; one Soviet radio mechanic of average capability was assigned to one of the workshops of Ardenne.

11. No Soviet military unit was stationed at Zinop. The nearest military post was at Sukhum, a commercial port. Between 1947 and July 1949, 15 submarines, about three motor torpedo boats and a large naval vessel were once seen at the port. A military airfield was said to be located north of Sukhumi. Aircraft flew over the institute only seldom. The plane seen was believed to carry mail.

1. Comment. For ground plan of the institute, see Annex 1. For layout of the ground floor, see Annex 2/I. For layout of the third floor, see Annex 2/II. For layout of "House D", see Annex 3/A. 25X1

25X1

3. Comment. For sketch of the separating magnet, see Annex 3/B.

4. Comment. For ground plan of the Main Workshop, see Annex 4. 25X1

Layout of the Zinop Institute

Legend.

1 Main institute building, a four-story brick structure about 70x40 meters, built before the war. The building has two wings between which there is a terrace; gable or hipped roof. First-hand information was available only on the ground floor. (See Annex 2). The second and the third floors had the same arrangement of rooms as the ground floor, while the fourth floor was different.

a - Glass swinging door, mostly closed

E - Wooden door which was mostly used

b - Hall with water basin
c - Corridors
d - Previously a club room, unused in 1949
e - Staircase to the upper floors
f - Storage of materials used at laboratories
g - Laboratories occupied by one scientist each
h, i, k, l - Workrooms for Apitzsch
h - Workshop about 4 x 5 meters equipped with one workbench with three vises and one German lathe
i - Three boring machines dismantled in Germany. One of the machines could bore cone-shaped holes up to 20 mm in diameter. Several grinding machines were also available
k - Two workrooms used by Apitzsch
l - Storage of electrical accessories
m - Workshop for Graeveler, plumbing shop
n - Mechanical workshop
o - Cloakroom and toilets
p - Ten laboratories
p_1 - Office or laboratory used by Soviets; possibly the work place of Soviet engineer Gregoryan.

The second and third floors housed the laboratories and the office of Manfred von Ardenne and work places for his assistants, including the chemical laboratory of Thiessen's department, most of the rooms of the mathematical department; a laboratory used by Dr Trattner (second floor), the laboratory of Soviet physicist Demikhanov, a co-worker of Manfred von Ardenne. The fourth floor housed the library (see Item 1). Chemicals were stored in the basement of the building.

2 Administrative building, single-story brick structure with flat roof, 30 x14 meters. Offices of MVD officer Ivanovich and Colonel Tobolin.

3 Two-story brick building about 40 x 20 meters, MVD billets.

4 Fire brigade, two-story brick building, about 12x8 meters, occupied by about 16 men.

5 "House D", a single-story brick building, 20 x 10 meters with flat roof, built about 1946. The building was surrounded with a 2-meter board fence topped by several strands of barbed wire;

it had two guarded gates, the eastern gate was usually closed. The building housed a test stand used by Manfred von Ardenne; in 1948, Dr. Froehlich was placed in charge of the stand. The building was equipped with an electromagnet about 3 meters high and 2 meters wide and shaped like an egg (see Annex 3). The magnet was supported by a concrete base, the thickness of which was estimated to be about 50 cm. The magnet consisted of two sections, one above the other with a space of about 50 cm between them. There was a steel core between the two component parts of the magnet. A bipolar plug was seen in the upper half of the magnet. Power required for the lower section of the magnet was said to be fed through a cable running below the concrete floor (see Item 26). A large and a small switchboard and measuring instruments of an undetermined type were also located in the test room housing the magnet. It was rumored that the magnet arrived in individual sections from East Germany in early 1947. The house also contained an office in which Ardenne and later Froehlich worked occasionally. A small workshop equipped with one workbench, one boring machine, and a switch board, was also available.

6 Main workshop, single-story brick building about 30 x 25 meters, newly erected between February 1947 and the summer of 1948, flat sheet metal roof. Most of the German skilled workers were employed at this workshop where mechanical work was performed. (see also Annex 4).

7 Physical laboratory, three-story brick building, 30 x 20 meters, the building previously served as kitchen building of the sanatorium. The building was located on elevated terrain, and stairs with at least 15 steps led to it. The laboratory was used by Dr Steenbeck and his assistants. Radio mechanic Krueger also had a workshop there. Krueger stated that Steenbeck made experiments with centrifuges.

8 Brick building under construction about 50 x 20 meters and 15 meters high. Construction work was started in February 1947. The framework of this structure was completed in July 1949. Soviet laborers told that the building was to be used by Soviet scientists.

9 Water container, no details available.

10 Diesel electrical station, about 20 meters square, equipped with a Diesel engine producing power of 300 V.

11 Garage

12 House occupied by Manfred von Ardenne

13 Billeting facilities and shops, two-story or three-story building.

14 Kitchen

15 Single-story brick building, unused

16 Houses occupied by Soviet families

17 House occupied by Soviet and German families

18 Temporary building used by German PWs

19 PW camp

20 New loghouse occupied by Soviet families

21 Baths

22 Houses occupied since early 1949 by German scientists

23 House occupied by Soviet scientists and their dependents

24 Two buildings occupied by German scientists (billeting facilities and school)

25 Three or four-story brick building under construction, each of the two wings measured about 40 x15 meters, sheet metal roof. Probably an office building. The building was nearing completion in July 1949. Only Soviets were employed on the construction of the house.

26 Cable duct, 2.5 meters deep and 1.5 meters wide, concrete pipes with cables for the power supply of "House D".

27 Stables

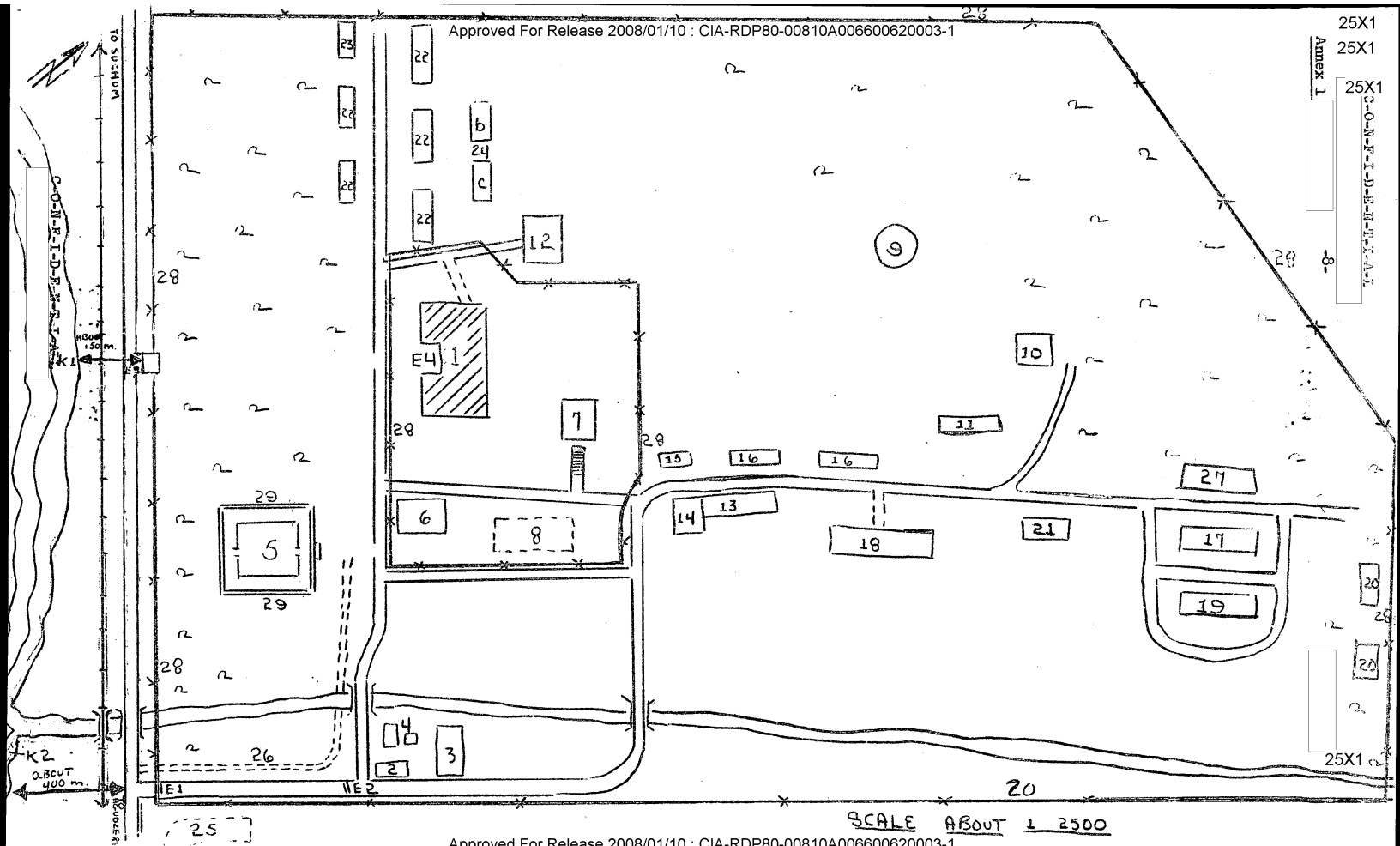
28 Wire fence

29 Board fence

E1 through E4 - Gates

K1 and K2 - Landmarks on the coast.

Annex 1



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Annex 2

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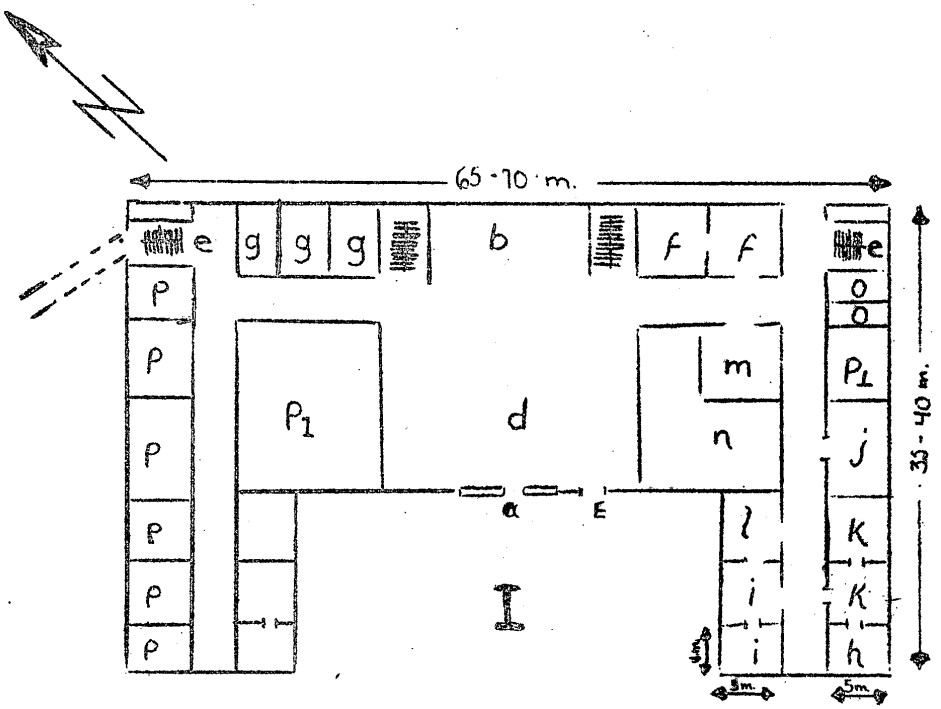

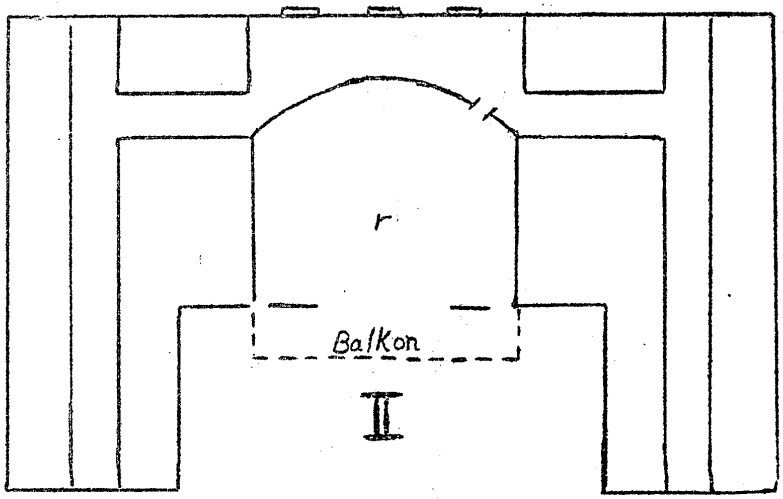

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Annex 3

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A Ground Plan of House D

Legend.

1 Entrance

2 Cable ducts

3 Offices

4 Workshop

5 Laboratory

6 Magnet

7 Cable pit

8 Door, locked

9 Board fence

B Separating Magnet

Legend.

1 Magnet

2 Plug for cable

3 Item unknown

4 Concrete base

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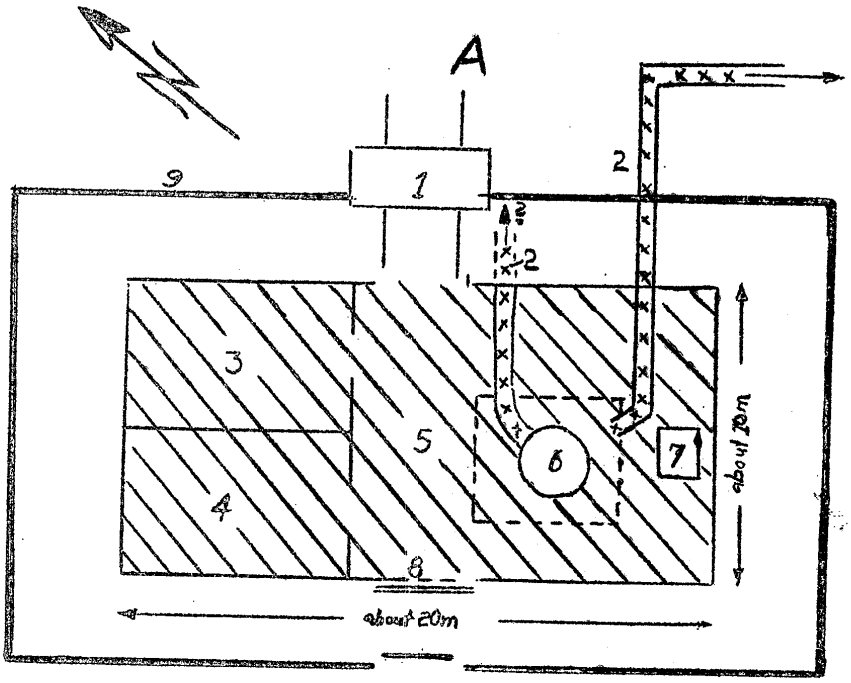
A



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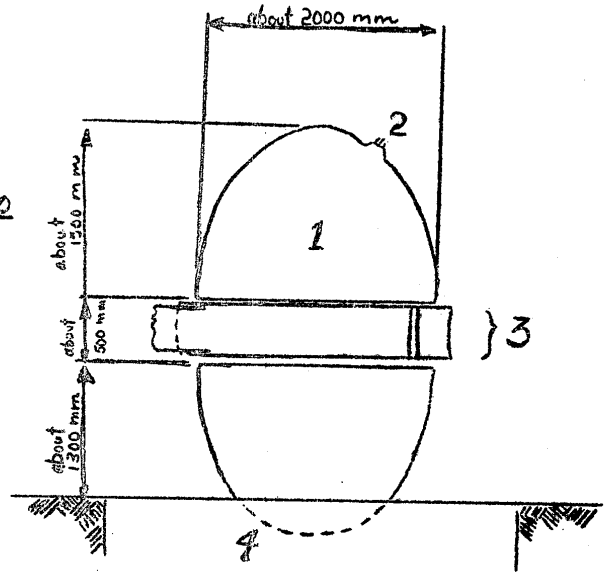
B



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Ground Plan of the Main Workshop

Legend.

1 Mechanical workshop equipped with:

5 American lathes with up to 60 cm spindle travel

1 East German lathe of undetermined make

1 Czech lathe

1 or 2 Soviet lathes

3 or 4 milling machines, including 1 from East Germany

1 cylinder grinding machine with a grinding length of about 80 cm;

2 standard disk grinding machines.

2 Storage of tools

3 Galvanizing shop not yet in operation in July 1949

4 Forge

5 Welding shop

6 Plumber's shop

7 and 8 Storage of materials

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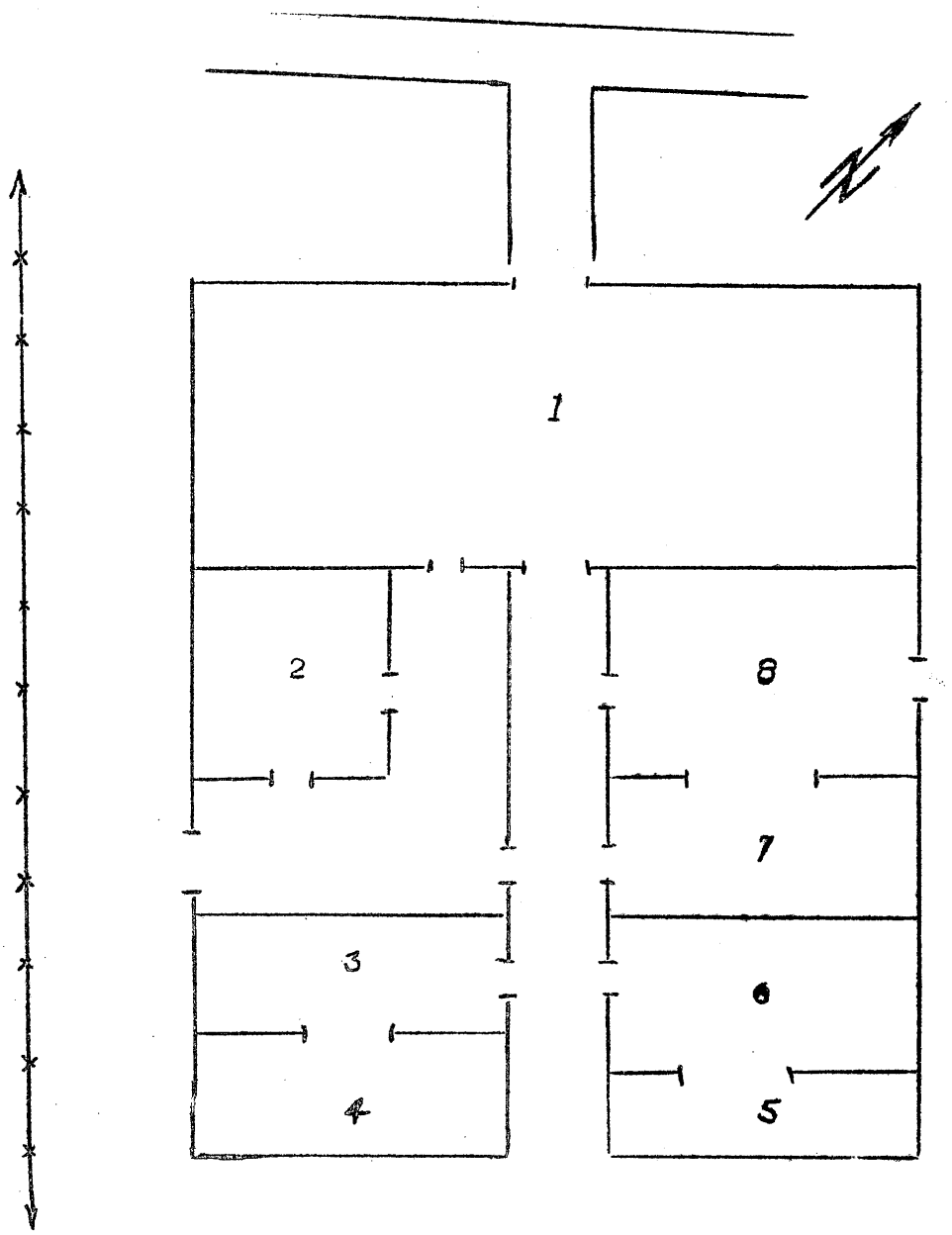

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